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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,508	06/24/2003	John E. Smce	020515	2193

7590 04/27/2007  
QUALCOMM Incorporated  
Attn: Patent Department  
5775 Morehouse Drive  
San Diego, CA 92121-1714

EXAMINER
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CORRIELUS, JEAN B

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/602,508

Applicant(s)

SMEE ET AL.

Examiner

Jean B. Corrielus

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007 and 20 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,9-23,25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-17 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-12,18-23,25 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/12/07 has been entered.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "50 and 52 " "60 and 62" and "70 and 72" have both been used to designate a combiner, a chip slicer and DFE, respectively. Note that the specification must be amended to reflect any drawing changes. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the step of modifying, deriving and determining, as recited in claim 1, the step of determining sliced chip decision, modifying, as recited in claim 22, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### **Claim Objections**

4. Claims 1, 2, 4-7, 18-21 are objected to because of the following informalities: claim 1 recites in line 7, "removing interference from the sliced chip". However, such limitation is not connected to subsequent limitations recited in the claim. The same comment applies to the limitations recited in lines 8-9; line 12 recites "determining an **updated** estimate of the encoded symbol", however, it is noted that there is no previous limitation to "estimate of encoded signal". Claim 18 recites means for removing and means for deriving. However, the claim does not recites any structural relationship between such means

Claim 19, line 2, "further" should be deleted. The same comment applies to claim 20, line 2 and claim 21, line 3. In addition, claim 20, line 2, "comprising" should be replaced by "comprises".

Note that any claim whose base claim is objected is likewise objected.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-2, 4-7, 9-13, 18-23, 25, and 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites in lines 8-13, modifying a previous chip slice decision based on the sliced chip and a correlation among the chips in the code word; deriving a more accurate estimate for the sliced chip based on a correlation among the chips in the code word; and determining an updated estimate of the encoded symbol based on the more accurate estimate for the sliced chip" however, there is no support for such limitations, as claimed. The specification teaches at best, the more reliable information (more accurate estimate) is stored in the feedback filter and older tap contents are modified by exploiting correlation between the chips and based on the more reliable information.

The same comment applies claim 9, lines 6-7 with respect to the following limitation "noise component based in part on the **one or more** chip decisions output from the slicer. It is suggested to deleted "one or more" so as to be consistent with the specification, see for instance specification paragraphs 40 and 43. As per claim 10, "one or more content registers" is not supported by the original disclosure. It is suggested to deleted "one or more" so as to be consistent with the specification. As per claim 18, lines 8-14 "means for removing interference from the sliced chip based on **the sliced chip and a previous sliced chip modified** based on a correlation of the sliced chip with the previous sliced chip" is not supported by the original disclosure. As per

claim 22, lines 9-10 with respect to the limitation "determining a noise component based at least in part on **the sliced chip** and the **modified previous chip decision**" is not supported by the original disclosure.

As per claim 25, lines 8-9, recites the feedback filter comprising a plurality of content registers and configured to receive the chip **decision**" however, it is noted that the specification teaches that the registers as set to receive chip slicer **decisions**. See specification paragraphs 41 and 42. The same comment applies to claim 27. Note that any claim whose base claim is rejected is likewise rejected.

#### ***Response to Arguments***

7. Applicant's arguments, see page 9, of the comment, filed 4/20/07, with respect to the rejection of claims 1, 2, 4-7, 9-14, 16-22, 24-26 have been fully considered and are persuasive. The art rejection of 1, 2, 4-7, 9-14, 16-22, 24-26 has been withdrawn.

8. Applicant's arguments filed 4/20/07 have been fully considered but they are not persuasive. It is alleged that the claims, as amended is supported by paragraphs 40, 42 and 43 of the original disclosure. However, as stated above in the rejection, the claims as amended are not supported by the section of the specification noted by applicant or any other sections of the specifications. See rejection above for further details.


#### ***Allowable Subject Matter***

4. Claims 14-17 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B. Corrielus  
Primary Examiner  
Art Unit 2611

4-25-07